

RESEARCH

Piles of Plastic on Darkening Himalayan Peaks: Changing Cosmopolitics of 'Pollution' in Limi, Western Nepal

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This article explores plastic and other non-compostable waste pollution in the Limi Valley, in Nepal's impoverished Humla district along the northern-western Nepal border. The Himalaya currently undergoes rapid environmental transformation. Environmental degradation, disappearing glaciers and climate change-related floods are increasingly shaping its landscape. At the same time, motorable roads and telephone connections as well as new modes of governance are arriving to its remotest areas linking Limi to the expanding Chinese market (and to a lesser extent the Nepali and Indian ones) with the consequence that an increasing amount of plastic packaging, wrappings, containers and single-use plastic items (as well as non-degradable electronic items) are reaching these villages. This article argues that these new challenges can be best understood and addressed as part of cosmopolitical ecologies of the Himalaya. They require a significant number of decisions at multiple levels, involving different forms of knowledge and moral frameworks dealing with issues of causality, responsibility, prioritization and action. Arising out of an international project and a 'stakeholders' workshop as a 'collaborative event', this article offers an opportunity to reflect on the predicament of Himalayan people and contribute to the debate on non-compostable waste pollution as linked to a wide range of environmental challenges including those related to climate change. These issues intersect and compound requiring a wide spectrum of responses at different levels bringing together socio-economic, political and cosmological dimensions. Mediation by a wide range of operators, potentially understood as 'cultural brokers', turns out to be decisive in the design and implementation of any strategy.

Keywords: waste management; Himalaya; environment; decision making; cosmology; cosmopolitics

Introduction

In October 2018 at Halji village in the Limi valley a team of researchers including one of the authors of this article witnessed the arrival of the first lorries on the new dirt road that connected this village in Limi, North Western Nepal, to China.¹ People were thrilled with their boxes of drinks, packaged noodles, items of furniture and all kinds of utensils. They had anxiously waited for the lorries and their merchandise for a long time. The monks in the monastery had been busy celebrating rituals to clear their pathways. The party that followed lasted the entire night. In the morning, plastic bags, scattered debris from packages and empty bottles were witness to the fact that all these new goods and new opportunities would increase exponentially the problems that had started to emerge with non-compostable waste. Most people however did not think much about it – just a few had started to notice the new messy stuff in the village alleyways, along the river banks, behind rocks, or flying in the wind.

Compostable waste has traditionally been used as a resource in Limi. Leftover food is used as fodder for animals, and manure is mixed with pine needles and used as fertiliser for the fields. Similarly, other local waste management practices already in place need to be acknowledged and further improved. There is a potential for at least some of the non-compostable waste to be similarly recycled or put to use for new purposes. However, there are limits to how many bottles and tins can be reused in small Himalayan village communities like Limi, and a sustainable system for waste management is very much needed. The management of the remaining non-compostable waste requires good technical solutions. These are particularly challenging to devise and implement in remote places with poor infrastructure.

Perhaps just as importantly, dealing with the problem of how to manage these new forms of waste also requires extensive awareness raising, and psychological shifts across the generations. This involves also a change of consumer pattern. According to current hospitality norms, generous

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amounts of bottled or canned soft drinks have to be served at any kind of visit or social gathering. This otherwise nice custom contributes to the generation of large piles of empty bottles, cans and broken glass.

The Norwegian scholar Astrid Hovden, in a brief for the workshop 'Environmental management in a changing climate: Communicating local perspectives from the Kailash Sacred Landscape' (Kathmandu 30 September–1 October 2019), commented on waste management as one of the challenges faced by agro-pastoralist communities in North-West Nepal. In a convergence of events, climate change-related floods have been occurring just as motorable roads, telephone connections as well as new modes of governance are arriving in these remote valleys at the border between Nepal and the Tibet Autonomous Region of the People's Republic of China. In particular, the rapid development of road construction in China's border regions and the expansion of mobile phone networks have impacted areas that were still patchily connected to Nepali state infrastructure. With these new connectivities, an increasing amount of plastic packaging, wrappings, containers, and single-use plastic items as well as new technological devices such as mobile phones and solar panels (and their batteries) are making their way to these remote villages perched on the Himalayan slopes linking them to the expanding Chinese market (and to a lesser extent the Nepali and Indian ones). New opportunities are thus combined with the advent of non-compostable waste, a new phenomenon for the population requiring psychological and cosmological shifts. These new environmental challenges have been requiring an increasing number of decisions at multiple levels, involving different forms of knowledge and moral frameworks dealing with issues of causality, responsibility, prioritization and action. It is therefore not surprising that researchers (especially anthropologists) as well as some local operators see a tight connection between the environmental, the cosmological and the political.²

This paper looks at non-compostable waste as one of several intersecting environmental issues by bringing together views from several vantage points: academic research, academic impact, development, state administration, local communities, and local networks. It explores the sacred landscape of Mt Kailash, of which Limi is part, as a site in which plastic goods and plastic waste encounter ancient Tibetan cosmologies. As plastic and other non-compostable materials travel over ancient and new Himalayan routes these materials are transformed in a process that leaves waste disposal as an intractable environmental issue. After highlighting the importance of cultural mediation at different levels, this paper concludes arguing for understanding waste management as an element of wider cosmopolitical ecologies, which include research projects and 'collaborative events' (CE) as situated practices.

Non-compostable waste management and remoteness in the context of a research project and a collaborative event

Setting out from ethnographic fieldwork carried out in the Limi valley and in Kathmandu in the framework of the international collaborative project 'Himalconnect' ('Himalayan Connections: Melting glaciers, sacred landscapes and mobile technologies in a Changing Climate', University of Oslo and University of Cambridge), this article offers an opportunity to reflect on the predicaments of Himalayan people and contributes from this vantage point to the debate on plastic (and other non-compostable waste) pollution as linked to a wide range of social, political and environmental challenges. Central to this paper is the 'stakeholders' workshop³ organised by the Himalconnect research team at the headquarters of ICIMOD (International Centre for Integrated Mountain Development)⁴ in Kathmandu, Nepal, from September 30th to October 1st, 2019, involving not only researchers but also Limi ward leaders and residents (including men and women representing the three villages of Til, Halji and Jang), members of the wider Limi community residing in Kathmandu, political leaders at different levels, NGOs, administrators, and waste management specialists at the national level.

The idea of organising a 'stakeholders' workshop' emerged as an opportunity for reflection, action planning, and networking following several years of research experience focused on environmental transformations linked to 'climate change'. The awareness of an erratic amalgam of connections and disconnections that often shaped or hampered responses to environmental challenges prompted researchers in collaboration with local leaders to organise a moment of encounter and exchange using a format suggested by both academic 'impact' schemes and 'development' agendas. The workshop had 40 participants (for details see <https://lib.icimod.org/record/34964>) and can be seen as an experiment in which the potential of this framework was being tried out and interrogated by people who had limited familiarity with it. The aim of the workshop was to bring together and foster dialogue among people who are dealing with the same landscape from different vantage points and often have to take decisions about it. Bringing together people who often had little opportunity to meet and engage because of travel logistics and bureaucratic disconnects, it also sought to facilitate their exposure to research and policy frameworks. The organisation of the workshop was part of a sustained effort to counter what Gillian Tett (2015) calls the 'silo effect' that often prevents humans from seeing risks and opportunities, sometimes with disastrous consequences. In this light the workshop offered fertile ground for ethnographic exploration taking inspiration from other 'collaborative events' (CE) in the Himalayan region and beyond (see for example Blaikie et al. 2015).

The workshop also offered the opportunity to reflect on the trajectory of the Himalconnect project and its transformation in light of the team's research findings, the priorities of the people involved and a range of non-human actors that had taken centre stage (ranging from

specific environmental features to spiritual entities in the landscape). In the course of the project development, it had become increasingly clear that plastic and non-compostable waste pollution was a facet of the fall-out of the carbon economy affecting mountain environments in addition to environmental hazards driven by the changing climate. The realisation that global economies depending on fossil fuels are not only the drivers of global warming but also the source of other connected challenges for the Himalayan environment had prompted a rethinking of the original project agenda to include intersecting issues such as non-compostable waste management. Most importantly, and on a different scale, the engagement with the complexity of what mattered to the community suggested a relative decentering of glaciers and 'climate change' as an issue of concern in ways that resonated with experiences in other mountain environments (see e.g., Carey, Jackson & Antonello 2016: 770–793). It also inspired an approach to waste management informed by debates on 'cosmopolitics' and 'ecology of practice' (see below). Some of the materials presented in this paper can therefore be seen as 'retrofitted', as they were gathered in light of experiences driven by different research priorities.

The intersecting environmental issues prompted the multidisciplinary research team, including anthropologists, geographers and scholars of religious studies specialising in the Himalayas (Hanna Havnevik, Hildegard Diemberger, Astrid Hovden and Riamsara Kuyakanon Knapp) to collaborate with Samanta Skrivere, a waste management expert and social entrepreneur specialising in waste management in Indonesian and Pacific islands. It is also in this light that work on Limi later dovetailed with the workshop on the 'Social Life of Plastic' held at Cambridge on 7–8 November 2019.⁵ One of the key features that seemed to characterise places that were so different and far apart as Indonesian and Pacific Island and the Himalaya was the concept of 'remoteness' and its particular associated challenges. Remoteness is certainly relative to context: Limi may appear as an extremely remote rural site from the point of view of the Nepali state with its capital Kathmandu, at two flights and several days walk away; however, according to Tibetan sacred geography it has been a spiritual centre for pilgrimage and learning for centuries (see below). In the context of 21st century rapid transformations, new consumption practices bring to the fore challenges that require new forms of management often dependent on centralised state strategies. This creates a specific form of 'remoteness' as non-compostable waste management in small communities cannot easily benefit from a centrally organised waste management strategy. As Samanta Skrivere put it during the Kathmandu workshop:

Mountain valleys are in some ways similar to small islands. Waste management, recycling and potential strategies that promote a circular economy raise issues of scale and transport that are comparable.

Anthropologists such as Anna Tsing (1993, 2005) have shown that 'remote' or 'marginal' and 'out-of-the-way'

places are not all they appear. Places like the steep Himalayan valleys or Pacific Small Islands are also co-creations of their inhabitants in dialogue with global narratives, linked by transitive relationships that flow between community, nation-state and the global politics of 'modernisation' (see also Saxer & Anderson 2019: 140–155). Waste management in these places is therefore likely to become an increasingly important facet of this process in the context of a newly created sense of 'remoteness'.

It is against this background that the Solid Waste Management Act 2011, with which the Nepal government sought to address waste management issues, has faced many, often unsurmountable, challenges in its implementation (Government of Nepal 2011). This involves a wider plan to reduce the adverse effects on public health and the environment by reducing, re-using, processing and disposing of solid waste. However, waste segregation and recycling, albeit advocated, are often difficult to implement due to a wide range of logistic problems – 'remoteness' being one of them.

The rapid development of urban centres and new connectivities on both sides of the Himalaya made it inevitable that the latest innovations of the modern world would eventually reach the remotest parts of the planet. Some pressing questions were articulated at the Kathmandu workshop comprising Limi residents (including men and women), members of the wider Limi network, Nepali scholars, the Humla MP, administrators from the Namkha Rural Municipality which includes Limi, the capital of Humla district Simikhot and Kathmandu as well as international scholars and NGO representatives. Two guiding questions for the panel on waste management were:

- How can we mitigate the arrival of plastic and other non-compostable waste?
- Even if there are national level policies (e.g., the Nepali Solid Waste Management Act, 2068, 2011) that prescribe waste segregation and management, how can they be implemented in rural areas and the waste collected?

The discrepancies between stated aims and practice were apparent. Despite the commitment to sustainability and environmental protection, practical difficulties and the cost of the logistics involved in any intervention, suggested that any implementation could be ignored by the local authorities and population. This emerged clearly at the workshop when representatives of various levels of the administration discussed their responsibilities and funding issues. The situation appeared particularly serious considering the problems faced by the Solid Waste Management Act 2011 in its implementation more generally and was further complicated by the fact that many national level policies are being re-written in light of Nepal's federalisation.⁶ The case of Limi appeared as a particular instance of a more generalised problem, which had its own specificities linked to its remoteness and distinctive geopolitical position (see also Yeh 2019).

In the rapidly transforming Himalayan world of Western Nepal, plastic (like other forms of non-compostable waste)

has a 'social life' that is shaped by different perceptions of this material in the different contexts it traverses: its production and sale within the secular and often secularist Chinese market economy (as well as the Indian, Nepal and European ones), its transformations and travels across a wide range of landscapes; its arrival in remote Himalayan locations by lorries, mules, Yaks and human shoulders; its uses, re-purposing and transformation into waste that pollutes the land through disposal practices that disperse debris into the environment to be carried by wind and water and eaten by animals; and eventually its final journey as part of the waste stream carried by the Karnali River to the Ganga River and eventually to the Indian Ocean and across the globe. These interconnections are not new, they reflect centuries of trans-Himalayan trade (see also Saxer 2016: 73–93) and yet many of the new features of goods and transactions are entirely unprecedented. The story of plastic – as that of other non-compostable materials such as batteries or discarded solar panels – evokes Arjun Appadurai 'social life of things' (Appadurai 1986) in constituting new layers of a dynamic system of flows and frictions that have shaped the Himalayan region over the centuries.

The Kailash Sacred Landscape Conservation and Development Initiative: Where plastic goods and plastic waste encounter ancient Tibetan cosmologies

Limi Valley is part of a sacred landscape centred on one of the holiest mountains in the world: Mt Kailash, which is located immediately to the north-west of the Limi valley, for centuries has been described as a centre of spiritual activity and learning in Tibetan sources (and other languages). With its pilgrimage routes, shrines, and monasteries, Mt Kailash is a site of worship for a wide range of traditions, including Buddhists, Hindus, Jains, and others (this perception is both historically rooted and highly relevant in current pilgrimage practices and territorial cults).⁷ As such it is the focus of the international project Kailash Sacred Landscape Conservation and Development Initiative (KSLCDI) coordinated by ICIMOD, which straddles the borders between Nepal, the Tibet Autonomous Region in China and India (see <http://www.icimod.org/?q=9456>) and emphasises the distinctive sacredness of this landscape, not only acknowledging its ancient cosmologies but also its current value for tourism and its environmental challenges. In particular, waste from a rapidly expanding market economy linked to development and tourism is proving to be one of the most urgent and intractable problems; and reflects challenges that are common to mountain environments in Nepal and beyond (see Asian Development Bank Report 2013; Alftan et al. 2016). In the Tibet Autonomous Region, the gravity of this problem has driven a number of local initiatives such as litter collection organised by the local medical school at Darchen,⁸ where students and staff members went as far as picking up batteries from rivers, but remains a problem. In the last few years ICIMOD has coordinated specific interventions to address waste along the main pilgrimage route around Mt Kailash; this was partially driven by a strong sense of horror that such a holy landscape could be littered by heaps

of waste left by tourists and tourist operators as well as pilgrims. Limi in Nepal however was not involved in this effort as it was in a position of relative marginality due to 20th century geopolitical transformations (see below).

Waste management in Limi was one of the key themes at the 'stakeholders' workshop'. It was on this occasion that the Humla MP, Tsewang Lama, highlighted not only the importance of local understandings of the landscape and its management but also the cosmological dimensions of these issues.

Limi used to be a subsistence society [and] until recently, in the world of high-altitude agro-pastoralists, there was no non-compostable waste. Now it is quickly becoming a consumer society. This involves radical changes. In ancient times the notion of pollution, *dip*, was used to protect sensitive environmental spots, such as springs, from biological contamination. These were the sites protected by the spirits of the springs, the *lu*. These ideas of pollution however do not encompass the new types of pollution that are rapidly arriving in these remote areas; some people are aware of the dangers of new types of waste, but most are not.

In his statement Tsewang Lama was highlighting the cosmological relevance of the landscape and the relevant ritual rules and regulations as well as the limitations of this kind of perception in dealing with new challenges. Indeed, these sacred landscapes are shaped by the ancient Tibetan beliefs in the tripartition of the cosmos: above are the *lha*, the gods of the sky and the high mountain peaks; in the middle are the *tsen*, *nyen*, and other spirits that dwell in the landscape inhabited by humans; below are the *lu*, which are the spirits of springs and waters more generally. Reframed through the Buddhification of this sacred landscape over the centuries, these entities remain powerful and tightly linked to ideas of wellbeing, fertility, power and pollution.⁹ The point that Tsewang Lama was making in his speech at the workshop was that these understandings are rooted in a specific type of livelihood underpinned by its socio-technological management of environmental resources: a sophisticated management of times and spaces related to high altitude agriculture and pastoralism as well as long distance trans-Himalayan trade. With rapid transformations these understandings now seem to provide inadequate lenses to look at this landscape – almost a sort of 'colour blindness' vis-à-vis the new threats. Local leaders who have started to reflect on the new challenges often highlight the fact that rules and regulations passed on from generations tend to be respected and socially policed whereas responses to the new issues require a new collective thinking. As pointed out by a Limi village leader: 'Working together, we can address these problems; if we don't, we are going to suffer the consequences.'

Government bodies and NGOs have been trying to address some of the most pressing issues but often the 'remoteness' of the place and the lack of awareness of cultural specificities have caused serious difficulties. At the workshop this disconnect became evident and was

addressed in multiple ways. In particular, it became clear that any intervention that does not take pre-existing understandings of the landscape into consideration is likely to fail or at least suffer from a perception that the spiritual entities involved will be antagonised rather than their powers being harnessed. Both landscape spirits and Buddhist authorities provide the framing that underpins the communities' rules and regulations and their enforcement. These are passed on in written form and kept in the monastery and are also the focus of a body of narratives passed on orally (see Hovden in press). Their importance was also highlighted at the workshop where it was suggested that they should be included in a policy brief for the government.¹⁰ It is in this light that we can speak of environmental cosmopolitics or even cosmopolitical ecologies, taking inspiration from Stenger's 'ecology of practice' (see Stenger 2005). Following a range of authors (De La Cadena 2010: 334–370, Sneath 2014: 458–472, etc.), we do not treat sacred mountains, terrains, and water sources as self-contained, esoteric religious phenomena. Rather, we consider them within critical 'cosmopolitical' framings in which nonhuman entities are engaged as actors in the socio-political arena and in environmental management. However, thinking through cosmopolitical ecologies is not a matter of simply expanding the existing notion of politics to include other actors. Without engaging with potentially non-reconcilable ontological assumptions, the focus is here on the practices and forms of knowledge by which humans engage with these non-human and other-than-human entities daily and especially when taking decisions. As Appadurai (2015: 228) notes, religion can be fruitfully seen as 'primarily a form of mediation between the visible and the invisible orders' and 'as a space of anxiety and indeterminacy about the relationship between [them]' (ibid: 224) (see also Knapp, Diemberger & Sneath in press).

The immediate relevance of spiritual entities and the way in which their authority is in tension with the State was reflected in some of the presentations.

During the workshop Tsewang Lama commented:

The micro-worldview of the local rural communities had limited the desires, and the limited desires were such that the local gods could supply them with a good harvest, children, healthy cattle, good weather, good roads, safe bridges, etc. But now we have to ask for 'plans' from the welfare state. The shift in the mode of production has created the need for managing waste. Because the encounter with the market economy has increased our desire for goods, what was earlier manageable for the local gods now needs to be supplied by the state. We have been made into calves that haven't learned how to suckle. We have a desire for the services that the state can provide for us, but we don't know how to write the applications or obtain the grants needed for them.

The Humla MP's words reflect a world in rapid change in which the authority of landscape gods and Buddhist masters have to contend with the authority of the State

– powerful and yet remote and often dis-functional. Until relatively recently it might have seemed as if time had stood still in the Limi region due to the difficulty of the terrain and hence the time it took to reach it. The power of the local spiritual entities (both landscape spirits and higher Buddhist deities) was all encompassing: for example, according a local oral narrative when China took over Tibet, the people of Limi were asked whether they would be willing to join (given Limi's geographic proximity and cultural connection to Western Tibet); they consulted the oracle at the main village shrine and Achi Chokyi Dronma¹¹ responded negatively, which determined their course of action. Whether entirely accurate or not, this narrative is often quoted as an explanation for their current positioning (see Hovden in press).

Achi Chokyi Dronma and other deities are still consulted in a variety of ways. They provide the spiritual underpinning for the respect of community rules and regulations, for the ritual management of times and spaces of the agricultural year and for innumerable decision-making processes over decades of transformation. The big events of the 20th century certainly had a lasting impact on Limi, with the establishment of the Tibet Autonomous Region and the redefinition of borders which changed access to pastures and transhimalayan trade. Political reforms in Nepal have also redefined local settings and administration multiple times (see Hovden in press). With increased connectivity, waste management has transformed dramatically but non-compostable materials haven't yet acquired a specific cosmological relevance – as they have in some holy sites on the Tibetan Plateau with litter management in connection to environmental protection; but where paradoxes of synthetic prayer-flags and synthetic scarfs (*khatag*) dispersed in the landscape are as common.

From goods to waste to recyclable material?

In Limi the arrival of new forms of waste elicited a creative engagement with non-compostable materials such as plastic, metal and glass. Similar localised forms of recycling can be found across the Himalaya, which one of the authors (Hildegard Diemberger) personally witnessed having worked in Himalayan regions for almost forty years. These range from the tailoring of clothing from repurposed mountaineering tents, to the use of mountaineering expeditions' plastic containers repurposed for the production of the local fermented drink (*chang*) and the collection of tin to be melted and transformed into pans and plates by local blacksmiths. However, it is the increasing volume of materials and pace of infrastructural transformations that have reconfigured the waste management challenge. With new connectivities that bring diverse markets closer to remote rural communities discarded and no-longer-repurposed materials have started to act on the environment and its human and non-human dwellers in unprecedented ways. In the specific case of Limi, the rapid rise of Purang as capital of the adjacent county in China with its frantic building and road construction, as well as the booming pilgrimage tourism from India that brought wealth and new consumption practices to the capital of the Humla district in Nepal, had a momentous impact. Whilst Limi does not lie directly on the current main route, the people

of Limi increasingly participate in border trade, construction work, and consumption of new goods.¹²

Limi is increasingly participating in a model of consumerism that is quickly spreading everywhere and enables goods to arrive and to be consumed or used with increasing ease and in unprecedented quantities. However, as we know from around the globe, this model does not offer an easy solution to the afterlife of the packaging of these goods, once the content has been consumed or the product is deemed unusable. The mountain communities of the Humla district face the same linear economy challenges as the so-called developed world, but the steepness, remoteness, prevailing socio-economic conditions, and vulnerability to natural hazards, makes material management in this region more challenging than in many other areas around the world. Solutions require collaboration and engagement at different levels so that adequate decisions are taken as close as possible to the issues at hand, as advocated by Elinor Ostrom (2009), and considering what non-compostable waste does or may do to environments and their inhabitants.

At the workshop Limi residents voiced concerns not only in relation to floods and erratic weather but also to the increasing danger of non-biodegradable waste and flagged the need to create new practices and norms for managing waste in the Humla district. Their main worries focused on materials like plastics, as well as glass and, quite importantly, electronic waste (e-waste). Along with the fast-moving goods invading their diet (with an increasingly frequent consumption of instant noodles and sugary drinks), other types of innovation such as solar panels, computers and mobile phones, have arrived and now these industrial products need maintenance and a proper way of discarding them. In order to protect the ecosystems and people locally and prevent problems from migrating downstream a variety of concrete options were explored.

Some of the Limi community members in the panel on waste management explained that the separation of waste would be a manageable operation to launch and establish – the communities are tightly knit and would understand why this new activity is needed. The hardest part of waste management appeared to be not separating waste but what happens with the material once it is collected.

To some extent they were aware that waste becomes recyclable material once if it is collected, separated, and transformed – at least into a bale or a bag of shredded pieces. However, achieving economies of scale for the recycling of materials seemed to be a significant challenge due to the cost and difficulties of transport, and relatively low volumes of recyclable waste in these remote mountain areas.

Looking at examples from other parts of the world, it was suggested that waste segregation and the creation of waste depots could be followed by the integration of low technology machinery. For example, a glass crusher could be integrated in the waste management depot. These technological devices could be built locally applying simple designs to create economic opportunities at community level. The crushed glass could be used by local masons as building material. Another important step was the potential viability of a market and route for recyclable materials (especially carefully selected plastic and e-waste)

to travel back to China where they can be used to create new products thus closing the loop into a local, Himalayan 'circular economy'. This possibility was to be explored with an awareness that waste management remains problematic in China with international waste no longer imported, patchiness in the implementation of government policies and recycling often marred by a wide range of issues (see for example Schulz & Lora-Wainwright 2019: 1–13).

Education emerged as a key sector to address non-compostable waste management and other environmental challenges. The approach 'Refuse, Reduce, Reuse before Recycle' was seen as an opportunity to be tried out adapting it to local circumstances to enable behavioural change in young people. This would involve building on pre-existing re-use and re-purposing practices as well as promoting a critical engagement with what is available on the market.¹³ For this reason, one of the actions that were discussed involved establishing an educational program for school children to showcase small but impactful steps which can be taken to minimise waste creation in the first place – including promoting critical awareness of consumption practices, prevention of casual disposal of packaging, litter collection, engagement with the significance of 'non-compostable' matter and the sharing of concrete local and non-local examples of damage to people's and animals' health by hazardous waste. At the same time a better understanding of Limi 'waste' through a series of waste audits (potentially including schoolchildren) was seen as the basis for a coordinated plan of waste segregation, accumulation and recycling as the first step for a community led strategy.

Keeping in mind that all the suggested activities would take place in the specific landscape of the Limi Valley, connecting with and respecting pre-existing understandings of the environment turned out to be fundamental for this kind of community work. At the same time, closer communication with different levels of the state emerged as essential. For example, any cross-boundary activity that explores the opportunity of recycling plastic and e-waste by bringing it back to China will require significant diplomatic work.

The importance of cultural mediators and intercultural dialogue

Within a cosmopolitical ecology of practice, the relationship between environmental features and humans is recognised as being fundamentally interactive and this includes researchers. The agency of the landscape manifested when a flood had prompted Astrid Hovden to change the direction of her research in Limi, transcending the divide between academic involvement and support to the community. When she started to engage with village communities inhabiting the Limi Valley in 2010, the study of environmental issues was not her priority. She was planning to study the relationship between village communities and the 11th century monastery.¹⁴ A glacial lake outburst flood, of which she had direct experience during her fieldwork, increasingly drew her attention to the environmental threats that are currently affecting these communities and this led to the Himalconnect project and relevant publications. She also had the opportunity to witness over a decade the rapid transformations of this commu-

nity with the construction of new roads and the establishment of new connectivities such as mobile phones and the internet as well as the emerging non-compostable waste issues. Beyond her academic agenda she found herself involved in a world of local politics and NGOs as they were grappling to find solutions to a wide range of problems. More specifically, as she became involved in supporting the Limi community in seeking national and international help to deal with the repeated glacial lake outburst floods (GLOF)¹⁵ that were threatening the village she interacted with a wide range of administrators and leaders. Different, contrasting views were brought to bear in decision making processes and this required a lot of creativity and ability to reframe issues. Reflecting on these tortuous, often conflictual, processes she came to appreciate the importance of mediation as enacted by a range of community leaders, representatives of local grass root organisations (e.g., Halji Youthclub Limi) and local administrators as well as higher level political leaders and experts.

Earlier in this article we quoted Tsewang Lama, the MP for the Humla district, who was advocating a redefinition of ideas of pollution to address new forms of waste. In doing so he was acting as a sort of 'cultural broker'. Born in a different Tibetan speaking community (the Nyinba) that inhabits the area around Simikot, the Humla district capital, he had been exposed to social sciences as well as national and international politics for many years. He is a politician, a local scholar as well as a published author and has been a crucial figure in local administration and in the management of cross-boundary relations for many years.¹⁶ A charismatic, articulate man, he had the ambition to navigate the different forms of knowledge and understanding he was engaging in. As a Tibetan speaker, he was intimately familiar with the cosmology that underpinned the Limi community's perceptions of the environment, with its spiritual entities inhabiting the landscape and the Buddhist moral framework. Albeit not a Limi dweller, using the pronoun 'we' he was positioning himself within the interpretative community aware of rules and regulations shaping human access to the landscape (including access to water, forest, and pastures as well as the timing of agricultural activities, construction of flood defences etc.). In his statements, Tsewang Lama was reacting to the fact that plastic and other kinds of non-compostable waste were still largely alien to the Limi people. It was only by witnessing the damages of this new waste – plastic eaten by wild and domestic animals, glass shards injuring them and especially hazardous waste such as batteries and e-waste poisoning soil and water – that some of the leading figures of the community started to think about it and promote collective engagement. During the workshop one of the village leaders, commented:

If each of us just thinks about filling their stomach and fulfilling their individual goals, these big issues cannot be addressed. We need to work as a community. We need to know what can be done and do it.

The Humla MP was aware that any concerted effort aiming at the protection of the environment, waste management and perhaps even consumption control had to connect

with the pre-existing cosmological and moral framework to be taken seriously. Mediating between different forms of knowledge in his search for a viable interface between local views and ecological goals, he was hoping that the inclusion of waste management in the community cosmological framework would have led to an inclusive and sustained community mobilisation.

Beyond the workshop, it is clear that leaders in various positions have become involved in environmental agendas and are constantly involved in cultural mediation. For example, local Buddhist authorities are increasingly embracing various forms of 'green' Buddhism¹⁷ to promote environmental protection. From this point of view Limi is not an exception, it is rather one of the many cases that can be found across the Himalayas. Yalbang Lama Pema Rigtsal Rinpoche, a spiritual master residing in the new administrative centre of Namkha Rural Municipality is a telling example. A soft-spoken, intellectually curious spiritual master, he did not shy away from difficult questions when we met him in October 2018. On the contrary, on that occasion he was keen to interrogate us on what we stood for and how we reconciled the perception of the local landscape as sacred with 'Western' scientific understandings of it. In the last few years, he has been one of the Buddhist masters who have taken a very proactive stance in taking on board environmental concerns, including waste management, within a Buddhist moral framework that promotes merit making through virtuous deeds and avoidance of harmful actions as well as awareness of the interconnectedness of all phenomena (see also The Karmapa 2017). For the Limi community the voice of environmentalist Buddhism is also prominently embodied by the 37th Drikung Kyabgon Chetsang Rinpoche, the head of the Drigung Kagyu sect of Tibetan Buddhism, which is dominant in Limi. Deeply aware of global environmental challenges he established projects such as 'The Go Green & Go Organic project' whose main purpose is 'to revive the Himalayan and Tibetan Cultures, and to protect the nature, animals, birds and environment of the Himalayan Mountains.'¹⁸

Considering Tibetan sacred geography, ecological concerns are just a new layer in a landscape that has been interpreted in multiple ways over the centuries and where different interpretations have coexisted over time. People in various positions have negotiated their ways of making sense of their environment, often reconciling very different view-points and narratives. It is therefore not surprising to see that with new technologies and new challenges, an oracle can be consulted locally, a lama in New York can be asked for divination via mobile phone and scientific data can be harvested from the internet – all at the same time. Decision-making processes can be both messy and practically effective as well as highly creative. The Kathmandu workshop has therefore offered us an opportunity to see a wide range of viewpoints on the ways in which different environmental issues (including waste management) intersect and are dealt with when taking decisions. It also prompted important reflections on the fact that certain technologies that might be beneficial in terms of addressing the impact of climate change as well as the quality of life more generally come with a range of new challenges: photovoltaic panels, batteries, computers

and mobile phones also mean toxic waste and all kinds of non-compostable waste.

This is true in the Himalaya as it is in the Pacific islands where the second author has dealt with waste management through the social enterprise Ministry of Waste. As reported on its website (<https://www.ministryofwaste.org/mow-eng>), through a non-conventional waste management system this organisation works 'closely with the existing structure and local people, to ensure...solutions inspired by the local customs...within the cultural, infrastructural and socioeconomic context'.

With her Indonesian experience in mind, at the Kathmandu workshop [the second author] discussed a range of practical solutions (e.g., the glass crusher) with the Limi community members in attendance. Thinking about remote valleys as 'islands', she was able to bring to bear some of her practical knowledge. It quickly became clear that these very different experiences of remote contexts could resonate with each other and be inspirational: a local to local dialogue could help understand a global challenge and the search for solutions.

The Limi people who attended the workshop were extremely interested in learning from practical experiences of waste management solutions experimented elsewhere. They were also keen to take the opportunity of entering into a dialogue with people that represented various layers of state authority that so far had been elusive. With some surprise, they also responded very positively to the fact that their worldview, including the cosmological intricacies, was taken so seriously. The future will tell what kind of synthesis they will be able to produce and what kind of solutions will eventually emerge. Despite the limitations of the 'stakeholders' workshop format in terms of time and scope of engagement and questions around the follow-on, the moment of encounter had proved fruitful or at least promising. At the time of editing this paper, despite delays due to the Covid crisis, steps are being taken forward to explore the best administrative options for the Limi community.

Conclusion

This article explored the predicaments of Himalayan people when dealing with new non-compostable waste as one of many pressing environmental challenges. In Limi, as in most other places, these issues intersect and compound requiring a wide spectrum of responses at different levels. Cultural mediation as deployed by a wide range of actors emerged as crucial in the conceptualisation and implementation of any strategy. This became evident at the workshop 'Environmental management in a changing climate – Communicating local perspectives from the Kailash Sacred Landscape' where members of the Limi community expressed their concern about the arrival of non-compostable waste as one of the emerging urgent environmental threats. The immediate dangers created to the local livelihood by plastic and other new forms of waste was clearly on their minds as was the fact that for the moment no strategy at community level was being successfully deployed. Through their contribution to the discussion it emerged that a multi-pronged approach was necessary involving both community educational work and the discovery of viable practical solutions that could

drive community action. Awareness of local perceptions of the sacred landscape emerged as essential as the engagement with political authorities at different levels and the exploration of all the available technological solutions. The integration of waste management practices and waste recycling in religious cosmologies appeared intrinsically political and therefore best understood as a cosmopolitical ecology of practice. Cultural mediation at different levels was therefore essential for waste management as an element of wider cosmopolitical ecologies, which include research projects and 'collaborative events' (CE) as situated practices.

Against the background of the challenges faced by the Solid Waste Management Act 2011, Limi's community members in dialogue with different political authorities and scholars promoted a truly 'cosmopolitical' approach to waste management. The perception of the Limi landscape as sacred has underpinned the respect for rules and regulations in environmental management for many generations and was therefore relevant to new challenges. The inability to engage due to the novelty of the problems required community's creativity in the production of responses that considered new knowledge from observations and experiences, awareness of scientific approaches, human spiritual relationality with their landscape features, the Buddhist morality of interconnectedness as well as – possibly – the reframing of concepts such as 'defilement' (*dip*).

New challenges require engagement by actors that are dealing with their predicaments and their potential responses in ways that are meaningful to them. Different forms of knowledge can therefore merge, clash, and combine in framing the narratives that drive decision making processes. In the Himalayas, in the Pacific islands and in many other places, waste connects disparate interpretative communities and socio-economic networks. It does so across multiple scales, when dealing with its management, potential transformation in recyclable materials or hazards. Thinking about the social life of waste thus offers an opportunity to reflect on these connections and disconnections, the predictable, the unpredictable and the messy. Buddhist merit making through virtuous deeds, landscape spirits' protection, and environmentalist agendas may come from very different traditions and yet dovetail in specific contexts. Despite the potential for misapprehensions, mistranslations, and misunderstandings, this provides the background against which innumerable day-to-day decisions are being taken, often with the help of mediators, in a context in which closeness to and familiarity with the issues at stake matters. As Ostrom (2009) notes, understanding this has implications for how strategic responses may most effectively emerge. In the face of global challenges such as the circulation of materials that can become non-compostable or even toxic waste, the assumption that a unified and centrally organised response will offer the way forward is tempting. However, this paper has argued for the importance of leaving the way open for real actors to respond in ways that are meaningful to them. We are not just 'producing' one world – we are involved in global processes, which are nonetheless experienced and understood differently according to context. This has crucial implications for responsive strategies and their effectiveness. This is particularly true in the context of the new forms of 'remoteness' created by new waste management issues.

Appendix 1: Images



Illustration 1: Map.



Illustration 2: Lorries arriving in Halji, Limi.



Illustration 3: Scattered waste in Limi.



Illustration 4: Limi schoolchildren collecting waste.



Illustration 5: Monks from Halji monastery in Limi.



Illustration 6: Til village in Limi valley with satellite dish and solar panels.

Notes

- ¹ This article is the result of research and impact activities that took place in the framework of the international collaborative project 'Himalayan Connections: Melting glaciers, sacred landscapes and mobile technologies in a Changing Climate' ('Himalconnect') based at the University of Oslo and the University of Cambridge (The Research Council of Norway, Norglobal scheme, project n 274491), a stakeholder workshop supported by the Global Challenges Research Fund of the University of Cambridge (GCRF, project n G 102647) and the Newton Trust Fellowship Scheme as well as earlier research projects. Ethical issues were addressed in the framework of the project and the workshop.
- ² This setting finds many parallels across the Himalayan world and the Tibetan Plateau. For a discussion of the Tibetan cosmological relevance of Climate Change related environmental challenges see for example Salick, Bauer and Byg 2012: 447–476.
- ³ This workshop was funded by the Norwegian Research Council Norglobal Programme and by the University of Cambridge GCRF scheme. It was hosted and managed by ICIMOD in Kathmandu under the lead of Dr Janita Gurung. The need to convene it was prompted by the realisation that many important issues suffer from the disconnect between local communities, different levels of the state and NGOs leading to inadequate strategies, mismanagement and duplication of efforts.
- ⁴ The International Centre for Integrated Mountain Development (ICIMOD) is a regional intergovernmental learning and knowledge sharing centre serving the eight regional member countries of the Hindu Kush Himalaya. See <http://www.icimod.org/>.
- ⁵ https://www.energy.cam.ac.uk/Plastic_Waste/call-for-papers-the-social-life-of-plastics.
- ⁶ Nepal is currently in the process of rewriting many of its laws in light of the new constitution approved in 2015 and the new federal structure of the state. Limi has recently become part of a larger administrative entity called Namkha. This new setting gives to this new administrative level more power and responsibilities within an effort of decentralisation. However, there is a real risk of important issues being neglected as the central state pushes the responsibility towards the local level and the local administrators complain about the lack of resources and know-how. With the dismantling of a specific central institutional body focusing on waste management, this is potentially becoming a casualty of this process unless it is properly addressed at the local level.
- ⁷ See e.g., Huber and Rigzin 1999: 125–153; see Hovden in press for their relevance of Limi in Mt Kailash sacred geography.
- ⁸ In 1998 I had the opportunity to meet the funder of this school, Tendzin Wangdrag, a famous Bonpo Lama with a wide-ranging engagement for the well-being not only of humans and other sentient beings but also for the landscape. Scholars traveling in this area had the opportunity to observe this litter collection efforts (personal communication from anonymous reviewer).
- ⁹ There is a vast body of literature dealing with both historical sources and ethnographic cases that highlight this feature of Tibetan landscapes, see for example Blondeau and Steinkellner 1996; Studley 2018: 354–383.
- ¹⁰ At the workshop it was even suggested that Limi could become an exemplary case for this kind of issues as far too often communities' rules and regulations are not adequately considered by law makers and administrators. This remains however a difficult and often intractable issue.
- ¹¹ Achi Chokyi Dronma is the main protector of the Limi valley, especially Halchi village and monastery. The name refers to a historical figure: the mother of the founder of the Drigung Kagyu sect of Tibetan Buddhism, who lived in the 12th century. This identification, however, clearly overlays a spiritual entity at the heart of the community that goes back to earlier territorial cults (see Hovden in press).
- ¹² For an outline of the complex position of Limi between Nepal and the Tibet Autonomous Region in China see Mulmi 2018; Yeh 2019; Hovden in press.
- ¹³ A similar step what taken to reduce excessive consumption of bad alcohol available on the Chinese market.
- ¹⁴ This work resulted in the PhD Thesis 'Between Village and Monastery: a Historical Ethnography of a Tibetan Buddhist Community in North-Western Nepal' (University of Oslo, 2015) to be published by Brill as a monograph (Hovden in press).
- ¹⁵ Some of these disasters made international news, see e.g. *Al Jazeera* article by Neelima Vallangi (24 January 2019). <https://www.aljazeera.com/indepth/features/climate-change-threatens-1000-year-monastery-remote-nepal-190124000208470.html>.
- ¹⁶ His *Kailash Mandala* offers a fascinating account of the culture, the society and the history of the region. 'He began his career assisting Western anthropologists who started coming to Humla starting in the 1970s... Lama is an unusual politician by Nepali standards. He became MP in 1991 under the auspices of Samyukta Janamorcha Nepal, the Communist outfit then fronted by Baburam Bhattarai. He was also assistant minister for local development in the royalist cabinet appointed by King Gyanendra in 2005, before rejoining the Unified Communist Party of Nepal (Maoist) as a central committee member. When the party refused to offer him a ticket for the 2017 parliamentary elections, he stood as an independent rebel candidate from Humla, was expelled from the party, and won the election by 47 votes.' (Mulmi 2018).
- ¹⁷ There is an extensive debate surrounding Buddhist environmentalism and environmental Buddhism. Beyond critical voices that (correctly) remind us of the important epistemological and soteriological differences between different approaches to the environment, it is undeniable that many Buddhist leaders have embraced narratives of environmental protection and safeguard of the planet mobilising Buddhist notions so as to converge with ecological goals.
- ¹⁸ <http://www.fao.org/mountain-partnership/members/members-detail/en/c/98621/>; <http://www.drikkung.org/their-holiness/hh-kyabgoen-chetsang>.

Competing Interests

The authors do not have competing interests concerning the subject matter beyond being participants in the projects mentioned in the text of the article (the details are given in footnote one).

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